

UCCE Marin Grafting Workshop and Scion Exchange

Apple Garden Cottage, Jan 25, 2012

Grafting

What is it? The joining of two plants, so that they may join as one.

Stock + Scion = Desired Whole Tree

Stock= Rootstock (just roots below) or
Understock (any lower part of the tree)

History

found in nature,
practiced in China thousands of years ago?
known in Europe by the 5th Cent BCE

Why?

- True to variety propagation, same as mother (clonal vs sexual)
- Faster flowering and bearing
- Size controlling rootstock effect
- Use a rootstock that is better adapted than 'own roots' regarding drainage, or disease and pests.
- Repair, strengthen, or shape tree
- 'Top Work' or 'Frame Work' to change, or add to the varieties

Varietal Selection:

Know these **essential botanical needs**:

- Climate appropriate (Chill, heat needs)
- Pollination (self fertile, need cross pollination, pollen sterile, separate male and female plants)
- Rootstock compatibility, new tree or topwork older tree

What You Really Want- Fruit Qualities:

- Taste/Aroma
- Attractive appearance
- Use fresh/processed
- Harvest season
- Storage
- Disease resistance
- Historical/Cultural- local, family

Collection of Scions

true to type, non-patented, disease/pest-free, fully dormant, newest growth branch tips, Label, label, label on (zip-loc) plastic bag with sprinkle of water, stored in fridge (do not allow freezing) can last up to 6 months

Selection of Rootstock

- Compatibility with scion (see charts)
- Adaption to:
 - Soill
 - disease and pest resistance
 - size desired
- Rootstock propagation:
 - seedlings, cuttings, stooling

Grafting Generalities:

7 C's of Grafting:

1. **Compatibility** (scion and rootstock)
2. **Calendar**, timing (dormant, or active growth require/allow differing techniques)
3. & 4. **Cambial Contact** (allows callus, then nutrients and water to flow both ways)
5. **Cover** (seal with wax and or tape)
6. **Characterize** (label, label, label, and observe throughout the year to confirm true to variety)
7. **Care**, afterward:
 - Do Not Let Roots Dry Out! Soak roots for 6 hrs, plant in ground or pot, keep soil damp but don't overwater,
 - remove constrictive tape a month after new growth from scion,
 - if no new growth by April/May- graft has failed- choose a shoot from below to provide another graft opportunity,
 - if graft takes and starts to grow- cut shoots sprouting below graft. Prune overly vigorous scion shoots for branching strength before allowing fruit to set and mature.

Grafting specifics (get out the knife):

- Whip (and Tongue)
- Cleft or Wedge

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- Chip budding
- Approach graft

<http://www.burntridgenursery.com/>
<http://www.treesofantiquity.com/>
<http://www.greenmantlenursery.com/>
<http://www.tierramadrefarm.com/>
<http://www.sandybarnursery.com/>

Others methods when bark is 'slipping',
later in the year

- Bark or Rind grafts
- June Budding
- Summer Budding

NOTES:

Other ways to clone fruit trees:

- Cutting,
- Stooling
- Layering
- Marcott/Air Layer
- Micropropagation

Some Fruit Trees mostly True to Seed:

Peach, Apricot, some Citrus

References and Further Information

Books

Grafting, R. J. Garner

Digital

Grafting & Budding Fruit Trees U Minn Ext.
<http://www.extension.umn.edu/distribution/horticulture/dg0532.html>

Membership Organization websites:

California Rare Fruit Growers, www.crfg.org
North American Fruit Explorers,
www.nafex.org/
<http://www.homeorchardsociety.org/>

Online discussion group:

<http://www.cloudforest.com/cafe/gardening/>

The California Backyard Orchard, UC Davis

<http://homeorchard.ucdavis.edu/>

Nursery websites with varietal info & more

<http://www.davewilson.com/>
<http://www.arboreum.biz/>
<http://www.onegreenworld.com/>
<http://www.raintreenursery.com/>